

# THE ONLINE MONITORING FOR PHOTON MULTIPLICITY DETECTOR

**DEBASISH DAS**

**The ONLINE Monitoring for PMD will be used to analyse the data and also have an idea of the detector behaviour during the actual beam-time.**

**It reads the data from a event pool where it is stored(temporarily) and then later read for the analysis purpose.**

**It has parts and different sections which contribute to it's utimate completion.**

**PMDONLINEGUI**

**StPmdONLINEUtil**

**StPMDUtil**

**StPMDOnlineMaker**

# The different sections

- **PMDOnlineGUI**---->This takes care of the graphics window and also when the START button is activated it reads the data file and terminates with STOP.
- Also it has a control button for BROWSE RESULTS which links it directly to the ROOT Browser.

## StPMDOnlineUtil

In THIS maker DATA is READ for the PMD and all the information is filled in the form of StEvent or Arrays.

## StPMDUtil

Here we use the StPMDgeom files to read the chain mappings .

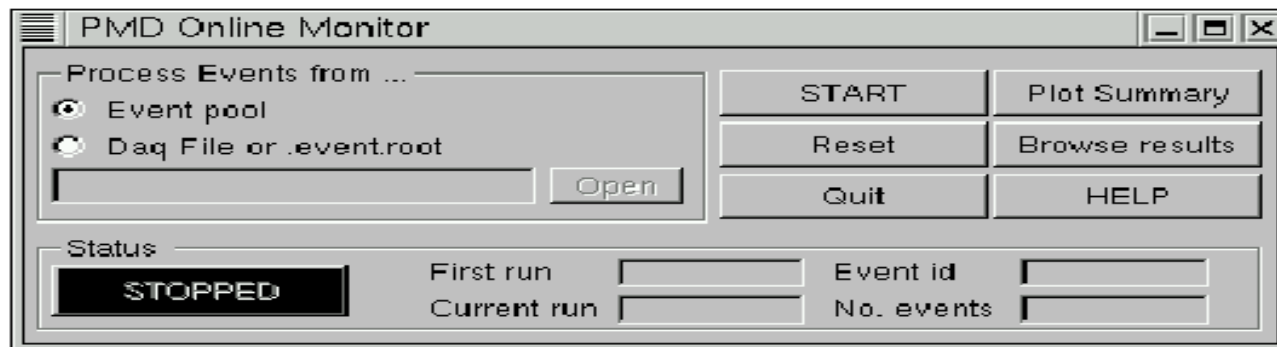
This MAKER READS StEvent and books/fills the Histograms which will be used for the eventual DISPLAY.

Here there is a HIERARCHY which starts from THE PMD PATCH under which it creates the MODULES which is further divided to PMD & CPV.

The SuperModules under the respective PMD and CPV are then again divided as usual into ROWS AND COLUMNS further enabling the HITS to be identified.

# THE PMD DISPLAY ON SCREEN

STEPS TO START ONLINE ----->



1)Run root4star  
2)root4star] .x runPmdOnline.C

# What we see on the SCREEN.....

The screenshot displays a Linux desktop environment with a blue background. In the top-left corner, an 'Open' file dialog is open, showing the 'Look in:' directory as 'online'. The file list includes 'i386\_linux24', 'StRoot', 'home', 'include', 'tar', and 'LOCAL\_st\_pedestal\_4108011\_raw\_0030001.daq'. The 'File name:' field is set to 'LOCAL\_st\_pedestal\_4108011\_raw\_0030001.daq' and the 'Files of type:' is set to 'Daq files (\*.daq)'. The 'Open' button is highlighted.

In the top-right corner, the 'PMD Online Monitor' window is open. It features a 'Process Events from ...' section with radio buttons for 'Event pool' and 'Daq File or .event.root'. The 'Daq File or .event.root' option is selected. Below this is an 'Open' button. To the right of this section are buttons for 'START', 'Plot Summary', 'Reset', 'Browse results', 'Quit', and 'HELP'. The 'Status' section shows 'STOPPED' and fields for 'First run', 'Current run', 'Event id', and 'No. events'.

In the bottom-left corner, there is a panel with 'Algorithms' and 'Image Size' tabs. Below these are buttons for 'Next', 'Prev', 'Load', 'Save', 'Print', 'Delete', and '0 files'. At the bottom of this panel are 'Grab' and 'Quit' buttons.

In the bottom-right corner, a terminal window is open, displaying the output of the 'runPmdOnline.C' script. The terminal text includes: 'star@pmd04:~/debasish/online', 'Version 3.03/09 8 April 2003', 'You are welcome to visit our Web site http://root.cern.ch', 'Compiled for linux with thread support.', 'CINT/ROOT C/C++ Interpreter version 5.15.56, Sep 4 2002', 'Type ? for help. Commands must be C++ statements. Enclose multiple statements between { }.', 'Welcome to the ROOT tutorials', 'Type ".x demos.C" to get a toolbar from which to execute the', 'Type ".x demoshelp.C" to see the help window', '\*\*\* Start at Date : Wed May 7 17:36:16 2003', 'QAInfo:You are using STAR\_LEVEL : dev, ROOT\_LEVEL : 3.03.09', 'root4star [0] .x runPmdOnline.C', and 'root4star [1] '.

A large red arrow points from the word 'START' (written in large red letters) to the 'START' button in the PMD Online Monitor window.



# See YELLOW ! PMD RUNNING.....

The screenshot shows a Linux desktop environment with a blue background. In the top-left corner, there is a window titled "PMD Online Monitor". It has a menu bar with "File", "Edit", "Settings", and "Help". Below the menu bar, there are two sections. The first section is "Process Events from ..." with radio buttons for "Event pool" and "Daq File or .event.root". The "Daq File or .event.root" option is selected, and the file path "/al\_4108011\_raw\_0030001.daq" is entered in the text box. There is an "Open" button next to it. The second section is "Status" with a yellow button labeled "RUNNING". Below this, there are fields for "First run" (4108011), "Current run" (4108011), "Event id" (0000042), and "No. events" (0000001). To the right of the "PMD Online Monitor" window is a terminal window titled "star@pmd04:~/debasish/online". It has a menu bar with "File", "Edit", "Settings", and "Help". The terminal displays the following text:

```
-----  
from file: /home/star/debasish/online/LOCAL_  
st_pedestal_4108011_raw_0030001.daq  
Starting run number = 4108011  this run numb  
er = 4108011  
StEvent is o'k 0xbebc158  
  
*** Break *** segmentation violation  
Root > I am in DecodeEmc  
MODE=0  
Creating StEvent for PMD  
Creating StEvent for CPV  
----- Processing event number 1  
-----  
from file: /home/star/debasish/online/LOCAL_  
st_pedestal_4108011_raw_0030001.daq  
Starting run number = 4108011  this run numb  
er = 4108011  
StEvent is o'k 0xbebc158  
  
*** Break *** segmentation violation  
Root > I am in DecodeEmc  
MODE=0  
Creating StEvent for PMD  
Creating StEvent for CPV  
----- Processing event number 1  
-----  
from file: /home/star/debasish/online/LOCAL_  
st_pedestal_4108011_raw_0030001.daq  
Starting run number = 4108011  this run numb  
er = 4108011  
StEvent is o'k 0xbebc158
```

At the bottom of the screen, there is a taskbar with several icons. From left to right, they are: a question mark, a terminal icon, a house icon, and a large "N" icon. Below the taskbar, there is a panel with several windows listed: "star@pm...", "[nayak...]", "PMD On...", "nayak@t...", "[xv 3.10...]", and "xv contr...".

b6  
b7C

Kneek had represented him while  
Root was [redacted]





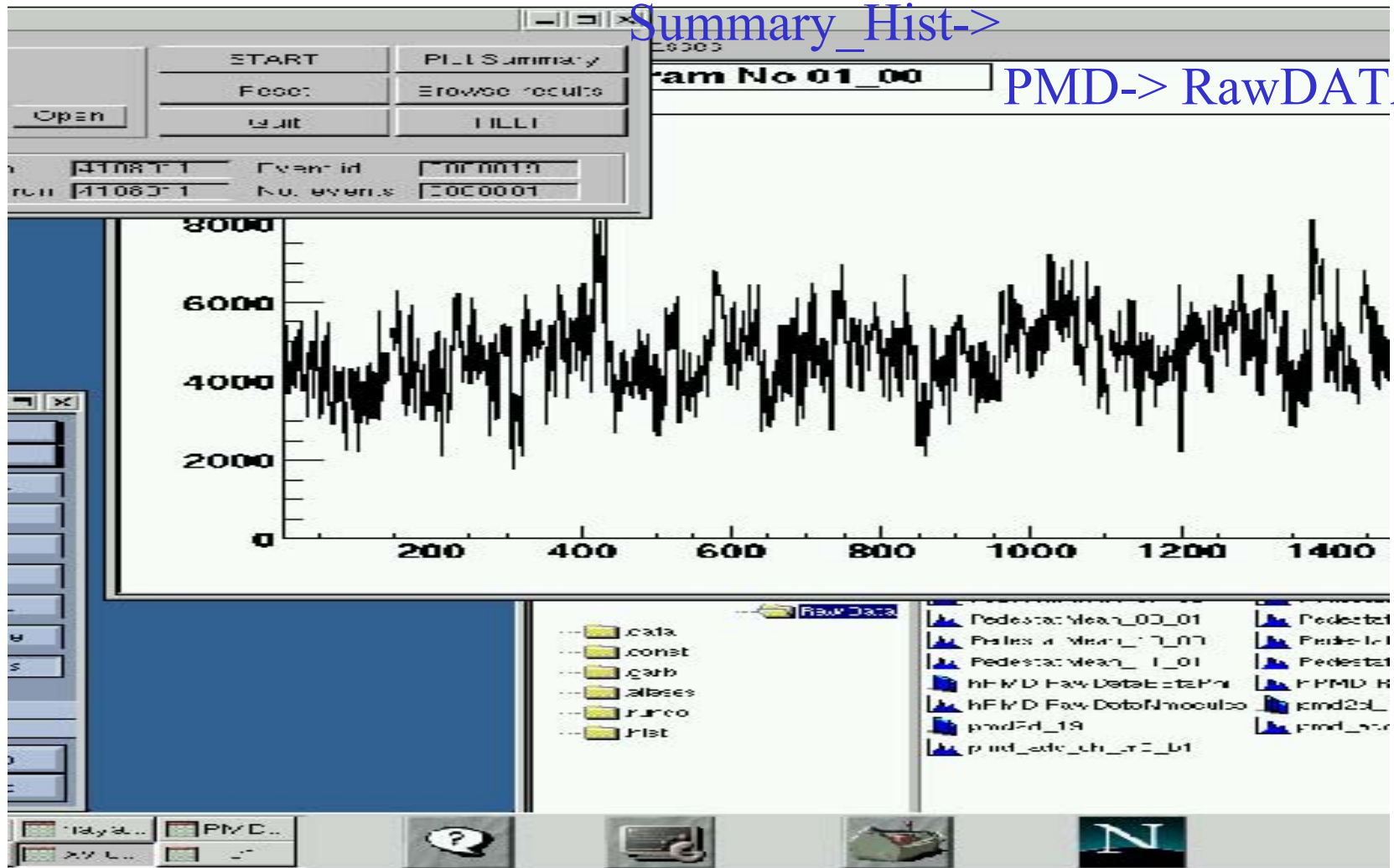
Click PMDOnline ->

.make ->

pmdonline ->

Summary\_Hist->

PMD-> RawDATA



IF CELL by CELL INFO required

CLICK pmdonline->PmdDetail and see the CELLS!

